

Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB.

Conducted and published for the Club, by

BENJAMIN LINCOLN ROBINSON Editor-in-chief.

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Vol. 6.

September, 1904.

No. 69.

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Boston, Mass.

740 Exchange Building.



Providence, R. I.

Preston and Rounds Co.

Printed by Edward W. Wheeler, Cambridge, Mass.

RHODORA.—A monthly journal of botany, devoted primarily to the flora of New England. Price \$1.00 per year (\$1.25 to all foreign countries except Canada); single copies 15 cents. Volume 1, \$1.50. All remittances by check or draft, except on Boston or New York, must include ten cents additional for cost of collection. Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be gladly received and published to the extent that the limited space of the journal permits. Forms will be closed five weeks in advance of publication. Authors (of more than one page of print) will receive 25 copies of the issue in which their contributions appear. Extracted reprints, if ordered in advance, will be furnished at cost.

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A SAILOR'S COLLECTION OF ALGAE.

FRANK S. COLLINS.

NOT long ago Dr. N. Wille of Christiania, Norway, placed in my hands for examination a small but interesting collection of American algae; interesting from the extension of range it gave to some species, but even more interesting from the way in which it was made. The specimens were collected by "Steuermann" Axel Moe, on various voyages to this country; from the ports at which the collections were made, and from some of the notes, the vessels in which Mr. Moe sailed were apparently mostly lumber carriers. A large part of the lumber freight from America to Europe is in the hands of the Scandinavians; the ships are not usually the most recent models; often they are vessels no longer available for other business, but the buoyant character of the cargo, and the excellent seamanship of the Swedes and Norwegians that command and man them, make them useful for many years after they would have been given up by other nationalities.

Mr. Moe had apparently no scientific knowledge of algae, but was accustomed to pick up at any port, one or two floating seaweeds that attracted his attention. They are all carefully mounted on paper, with particulars of locality and date. Other specimens, mostly forms of *Sargassum*, were picked up in open sea; and with them latitude and longitude, to the minute, are given in every case. On one voyage his sister, Ragnhild Moe, was with him and collected a few specimens; all the others are his own handiwork. The time during which these collections were made is from 1877 to 1902; the localities range from Newfoundland and Bay Chaleur to Yucatan; the only instances of fresh water algae are specimens of *Stigeoclonium*

and *Ulothrix*, noted as "On pine logs coming down the river" when the ship was at some Florida port.

For new stations, we may note *Gobia Baltica* (Gobi) Reinke, at Louisburg, N. S.; heretofore known in America only by a single finding at Newport, R. I. *Choreocolax Polysiphoniae*, Reinsch, from Nova Scotia, Maine being the former northern limit. *Dermocarpa prasina* (Reinsch) Born. & Flah., at Sydney, former northern limit, Maine. *Sphacelaria cirrhosa* (Roth) Ag., St. Lawrence River; with the exception of the warm-water colony at Quahaug Bay, Maine, not before reported north of Gloucester, Mass. *Dictyosiphon foeniculaceus*, forma *flaccidus*, Kjellm., from Newfoundland; a form extending from the north of Europe to Greenland, but not on record farther south on this coast. *Mesogloia divaricata* (Ag.) J. Ag., Newfoundland, not reported north of Maine. *Ulva fasciata*, Delile, Norfolk, Va., Florida being hitherto the northern limit.

The few species from Progreso, Mexico, are very tantalizing. Almost nothing is known of the algae of the Gulf coast of Mexico. Murray, in his Catalogue of the Marine Algae of the W. I. Region, after noting the rich flora of Florida, says, "The whole coast of the Gulf of Mexico has been ascertained to be barren," but here are very luxuriant specimens of *Caulerpa prolifera* (Forsk.) Lamour., *Codium tomentosum* (Huds.) Stack., *Bryothamnion Seaforthii* (Turn.) Kuetz., and *Eucheuma isiforme* (Ag.) J. Ag. Where these were found, it is more than likely that forms usually found with them elsewhere should also occur; and while we are grateful to Mr. Moe for so much, we can only wish we had been there with him.

The collection includes about seventy species, and it is now deposited in the herbarium of the Botanical Museum at Christiania, Norway. May the example find many followers.

MALDEN, MASSACHUSETTS.

AN UNDESCRIBED VARIETY OF GOLDENROD.

C. B. GRAVES.

IN the summer of 1892 I found in one of the swamps of Waterford, Connecticut, a form of *Solidago* that was new to me. Notwithstanding that it grew in a decidedly wet situation I was lead to think, on

account of its smooth stem and its general resemblance to *Solidago rugosa*, Mill., that it was the nearly allied *S. ulmifolia*, Muhl., and so considered it up to two years ago. At that time good material of undoubted *S. ulmifolia* was collected on dry rocky ground in the north part of the county, and a careful comparison with the Waterford plant disclosed several marked points of difference. Further study of this swamp plant during the past two seasons has made evident that its closest affinity is with *S. rugosa* rather than *S. ulmifolia*.

As to whether it should be looked upon as specifically distinct from *S. rugosa* there might be an honest difference of opinion, but on account of the discovery of a few plants showing intermediate characters it seems best to regard it as a well marked variety of that species. In 1903 I found the same form in two sphagnum swamps of Voluntown, Connecticut.

Mr. Fernald who has carefully studied the early descriptions and types in *Solidago* kindly informs me that so far as he can discover this form has not before been described.

It may be characterized as follows :

SOLIDAGO RUGOSA, Miller, var. **sphagnophila**, n. var. Stems from horizontal rootstocks, 9 to 15 dm. tall, simple or occasionally branched above, angular-striate, very smooth, usually dark red or purple but sometimes green.

Leaves numerous, ascending, rather thin, moderately or slightly rugose, pinnately veined, above smooth except near the very rough margin, below somewhat pubescent mostly on the veins with short white hairs, sharply serrate above the proximal third or quarter; leaves of midstem the largest, 7 to 10 cm. long, $1\frac{1}{2}$ to 2 or rarely 3 cm. broad, oblong- or elliptical-lanceolate, somewhat acuminate, gradually narrowed to the sessile base; lower stem-leaves smaller, narrowly oblanceolate, tapering into margined petioles; leaves of upper stem and branches much smaller, oval or narrowly oblong, acute; basal and radical leaves absent at flowering time and not seen.

Inflorescence very variable, from simple to compound corymbose- or racemose-paniculate, often large and open with long recurved branches; racemes secund, rather densely flowered, more or less pubescent; pedicels 1 to 3 mm. long; heads and rays small, involucre $3\frac{1}{2}$ mm. high, its bracts in about three rows, linear-subulate to oblong-linear, acute or obtuse, firm, smooth or the outer puberulent; rays 6 to 11, disc-flowers 4 to 8; akenes greenish gray $1\frac{1}{4}$ to $1\frac{1}{2}$ mm. or very rarely slightly more in length, narrowly oblong-obovate, cuneate at base, angular-striate and flattened, hirsute with short ascending stiff white hairs.

CONNECTICUT: Waterford, abundant in sphagnum swamp bordering Fog Plain Brook.

Voluntown, Rhododendron Swamp, and in sphagnum meadow, edge of Great Cedar Swamp.

Not the least interesting feature of this variety is its time of flowering. It is one of our early goldenrods, following close after *S. juncea*, Ait., and *S. odora*, Ait., and antedating *S. rugosa* in the same neighborhood by at least four weeks. This past summer it began to bloom about August first, was well in flower a week or ten days later, and by the end of the month — at a time when the species was barely beginning — the variety was practically out of bloom.

Its preference for wet soil is also noteworthy. Thus far it has been found only in rather open sphagnum swamps and wet boggy meadows. Such of its relatives as are associated with it in these situations, *S. neglecta*, T. & G., *S. serotina*, Ait., and *S. Elliottii*, T. & G., frequently spread up on to the higher and comparatively dry margins of the swamp, but the variety under discussion seems not to occur off the sphagnum.

It is readily distinguished from the species by its perfectly smooth, more striate and usually darker stem, and its relatively smooth leaves. Its early flowering season and its habitat also constitute significant points of distinction. *S. ulmifolia*, Muhl., which at times rather closely resembles this variety is a plant of dry wooded or rocky situations, and comes into flower several weeks later. It also differs in its broader, more ovate, and more pubescent leaves, its usually more slender and open inflorescence, and its akenes which are longer ($1\frac{1}{2}$ – $2\frac{1}{2}$ mm.) less distinctly cuneate at base and much less pubescent than in any observed form of *S. rugosa*.

NEW LONDON, CONNECTICUT.

NOTE ON *HYDROPHYLLUM CANADENSE*. — Two references escaped my notice when I was writing my recent paper (Preliminary Lists of New England Plants, — XVII. RHODORA, VI, July, 1904, 151–161). In the Botany of Vermont by William Oakes, published in Thompson's History of Vermont in 1842, *Hydrophyllum canadense* is credited to the State, on page 192, in the following words: "At the base of Mansfield mountain, and frequent in the south west of Vermont. Robbins. June." This species should be marked with a line in my list under Vermont.

In the Flora of Vermont by Brainerd, Jones, and Eggleston, published in 1900, under Additions and Corrections, the authors, on page 106, referring to *Hydrophyllum canadense* as occurring in Vermont, cite the specimens collected in Charlotte by Mr. Pringle, and discussed at length by me in the paper above mentioned, on pages 156–158, and say that they “were somewhat abnormal but were so named by Dr. Gray.” This statement is entirely contrary to the opinion expressed by Dr. Gray to Mr. Pringle that the plant was “a monstrosity or abnormal condition of *H. Virginicum*,” but Pres. Brainerd in reply to my inquiry writes me that the note is a “blunder, resulting from mixing up the two names, *H. canadense* and *H. virginicum*.” — WALTER DEANE, Cambridge, Massachusetts.

NOTES ON NEW ENGLAND HEPATICAЕ,—II.

ALEXANDER W. EVANS.

(Continued from page 174.)

10. LEPIDOZIA SETACEA (G. H. Web.) Mitt. Jour. Linn. Soc. Bot. 5: 103. 1861. *Jungermannia setacea* G. H. Web. Spic. Fl. Goettingensis, 155. 1778. *J. sertularioides* Linn. f. Suppl. 449. 1781. *J. pauciflora* Dicks. Fasc. Pl. Crypt. 2: 15. pl. 5, f. 9. 1790. *J. Schultzei* Spreng. Plant. Pug. 1: 64. 1813. *Blepharostoma setaceum* Dumort. Recueil d'Obs. sur les Jung. 18. 1835. *Lepidozia sphagnicola* Evans, Bull. Torrey Club, 20: 397. pl. 162. 1893. The true *Lepidozia setacea* is much rarer in North America than the printed records would seem to indicate. In fact nearly all of the American material which has been referred to this species belongs to the following, and this is true even of the specimens distributed in Hep. Bor.-Amer. 76 and in Hep. Amer. 85. A number of years ago the writer found an abundant supply of a *Lepidozia* growing in a bog and, recognizing its distinctness from what had passed for *L. setacea* among American writers, described it as new under the name *L. sphagnicola*. Recently, however, these plants have been restudied and carefully compared with European material, and it has become evident that *L. sphagnicola* is a synonym of *L. setacea* and that it is our much commoner plant growing in woods which is undescribed. Specimens

of both species have been submitted to Herr C. Müller, of Freiburg in Breisgau, Germany, who has kindly confirmed the above conclusion. The only New England stations for *L. setacea* which can be definitely cited at the present time are the following: Woods Holl, Massachusetts (*A. W. E.*); Bethany, Connecticut (*A. W. E.*).

11. *Lepidozia sylvatica*, sp. nov. *L. setacea* Auct. (in part). Growing in more or less compact tufts, often in company with other minute hepatics, brownish or yellowish green, varying to pale green: stems 0.08 mm. in diameter, ascending, irregularly pinnate or bipinnate; leafy branches usually lateral, very rarely postical, obliquely or widely spreading; flagelliform branches scanty, usually postical but sometimes terminating a lateral leafy branch; rhizoids sparsely developed, mostly restricted to the lower parts of the leafy axes and to the flagelliform branches: leaves transversely inserted, distant to loosely imbricated; stem-leaves averaging 0.21×0.18 mm., deeply trifid or quadrifid to within two or three cells of the base, segments entire, subulate, usually more or less incurved but sometimes straight and squarrose, two cells wide (rarely three or four cells wide) in basal portion and tipped with a row of from two to four cells; branch-leaves similar to the stem-leaves but smaller and usually bifid or trifid; leaf-cells averaging $16 \times 14 \mu$, walls slightly and uniformly thickened, cuticle smooth or very indistinctly verruculose: underleaves of the stem trifid (or very rarely quadrifid) to within one or two cells of the base, 0.15 mm. long, 0.065 mm. wide at base, segments when well developed similar to those of the leaves, one or two of the segments regularly aborted and reduced to one or two cells in length; under leaves of the branches smaller and often only twice divided: inflorescence dioicous: ♀ inflorescence borne on a very short postical branch, often with no leaves except those of the involucre; bracts and bracteoles in two or three rows, scarcely distinguishable from one another, those of the innermost row ovate, 1 mm. long and 0.35–0.5 mm. wide, usually bifid about one fourth with acuminate and denticulate or ciliolate divisions and a sharp and narrow sinus, rarely undivided, entire or sparingly toothed near base, cells longer and with thinner walls than in the leaves, cuticle more distinctly verruculose; bracts and bracteoles of second and third rows successively smaller and more regularly bifid; perianth narrowly ovoid or cylindrical, 2.7 mm. long, 0.6 mm. in diameter, terete below, bluntly trigonous above, the keels separated by narrow grooves, mouth more or less contracted, ciliate, the cilia one to four cells long and one or two cells wide at the base, cells of the perianth similar to those of the bracts: ♂ inflorescence borne on a short postical or, more rarely, lateral branch, usually proliferating at the apex into a leafy axis; bracts in four or five pairs, strongly concave, ovate, 0.35 mm. long, 0.2 mm. wide, bifid about one-half, the divisions acuminate, short-ciliate on the margins, sinus sharp, bracteoles mostly bifid

with subulate divisions; antheridia solitary, oval: capsule oval, yellowish brown, 0.9 mm. long, 0.5 mm. in diameter; spores minutely verruculose, yellowish brown, $12\ \mu$ in diameter; elaters reddish brown, with two spirals, $9\ \mu$ in diameter.

On shaded banks and rotten logs. New Hampshire. White Mountains (*Oakes*).¹ Massachusetts: Woods Holl (*A. W. E.*); Amesbury (*J. W. Huntington*); West Newbury (*Miss C. C. Haynes*). Connecticut: Westville (*R. Veitch, A. W. E.*); New Haven and Orange (*D. C. Eaton*); Hamden (*D. C. Eaton, A. W. E.*). The Westville specimens collected by the writer in April, 1903, may be designated the type. The following stations beyond the limits of New England may also be noted: Quaker Bridge, New Jersey (*A. W. E.*); Washington, D. C. (*J. M. Holzinger*); Tibbs Run, West Virginia (*A. LeRoy Andrews*); Dickey's Creek, Virginia (*Mrs. Britton & Miss Vail*); Enterprise, Florida (*L. M. Underwood*).

The leaf subtending a lateral branch in *L. sylvatica* is sometimes bifid and sometimes undivided; in other cases there is no subtending leaf whatever (*fig. 3*). The latter condition in fact is normally found on one side of a branching axis while subtending leaves occur on the other. The absence of such a leaf indicates that the whole, instead of a part, of an apical segment has entered into the formation of the branch. This substitution of a branch for an entire leaf is of especial interest and has not before been noted in the Hepaticae, although its occurrence was long ago suspected by Leitgeb.² The subtending leaves are sometimes found on the right hand side of an axis and sometimes on the left, according to the direction of the spiral. Similar variations also occur in *L. setacea*.

In their vegetative organs *L. setacea* and *L. sylvatica* resemble each other very closely, and it is sometimes difficult to determine sterile and poorly developed material. Usually, however, the leaves and especially the underleaves offer a few reliable points of difference. Under favorable conditions *L. setacea* is more robust, and its leaves are more regularly quadrifid; in many cases the antical segment bears an accessory tooth on its free margin, a condition which is exceedingly rare in *L. sylvatica*. Occasionally a bifid subtending leaf will show an accessory tooth of this character on each side. The

¹ These specimens have not been seen by the writer; further reference is made to them on page 189.

² Bot. Zeit. 29: 562. 1871.

cuticle of *L. setacea* is distinctly verruculose while that of *L. sylvatica* is smooth or very indistinctly roughened. Unfortunately in slender forms of *L. setacea* these differences are not always apparent.

The underleaves of *L. sylvatica* are usually trifid but are occasionally quadrifid on very robust axes and are not infrequently bifid on slender branches. One or two of the divisions are tipped with the remains of hyaline papillae and are thereby aborted in their growth and reduced to one or two cells in length; the divisions without papillae become almost as long as the segments of the leaves. In *L. setacea* quadrifid underleaves are the rule on principal axes, although trifid and even bifid underleaves occur on the branches. Here again the remains of hyaline papillae may be detected on the tips of the divisions; apparently, however, they do not interfere to any great extent with the development of the segments, which never exhibit the extreme disparity in size found in *L. sylvatica*. Even on slender forms of *L. setacea* this difference in the underleaves seems to be constant.

The most important differential characters, however, are afforded by the perichaetial leaves. These have been repeatedly figured for *L. setacea*, but unfortunately the figures show little uniformity. The same statement will also apply to the published descriptions. In Hooker's *British Jungermanniae* (1816), the perichaetial leaves are figured twice: on plate 8, they appear deeply laciniate with very slender divisions; on plate 1 of the supplement, they are ovate in outline and undivided. Nees von Esenbeck¹ comments on plate 8 and states that he has never observed the bracts so finely laciniate; Gottsche² criticises the same figures and also remarks that those given on plate 1 are untrue to nature because they represent the bracts as being undivided; Austin³ accepts the supplementary figures of the perichaetial leaves but rejects entirely those given on plate 8. As a matter of fact the bracts are almost intermediate in character between the two figures of Hooker; they are more or less deeply trifid or quadrifid with lanceolate, acuminate, dentate or ciliate divisions separated by very narrow sinuses. In some cases the primary divisions of the innermost bracts are not very deep, and oftentimes the lacination seems to be even better marked on unfer-

¹ *Naturgeschichte der europ. Lebermoose*, 2: 299. 1836.

² *G. & R. Hep. europ.* 655. 1879.

³ *Hep. Bor.-Amer.* 76. 1873.

tilized flowers than on those with well developed perianths. Of later figures those published by Stephani¹ and Müller² bring out the characters pretty clearly. Pearson,³ however, describes and figures the bracts as "bidentate" with the "segments ciliate-dentate, acuminate"; but, as these figures of the bracts are all drawn from North American specimens collected by Oakes in the White Mountains, it is hardly to be doubted that they represent *L. sylvatica* instead of the true *L. setacea*. It is also probable that Austin had no American material of *L. setacea* before him when he rejected Hooker's figures. Fertile material of *L. sylvatica* may be at once distinguished by the perichaetial leaves, some if not all of which will show the bifid character.

In the ciliate mouth of the perianth the two species agree with each other but differ from the recently described *L. trichoclados* C. Müll. Frib.,⁴ in which the mouth is minutely denticulate. *L. trichoclados* is now known from several widely separated localities in Europe and is perhaps to be expected in North America. It is a fragile species and is hardly to be distinguished in sterile condition from slender forms of *L. setacea*. It is remarkable, however, for its short and delicate bracts, which are ovate in outline, slightly bidentate at the apex and irregularly denticulate in the upper part. *L. trichoclados* is also noteworthy because it matures its capsules in November; in the other two species these are matured in May or June.

12. SCAPANIA CONVEXULA C. Müll. Frib. Bull. de l'Herb. Boissier, II. 3: 42. 1903. Mt. Katahdin, Maine (*E. D. Merrill*), the type-locality.

13. SCAPANIA PALUDOSA C. Müll. Frib. *l. c.* 49. *pl.* 1. *S. undulata*, var. *paludosa* C. Müll. Frib. Beih. zum Bot. Centralbl. 10: 220. 1901. Tuckerman's Ravine and Mt. Pleasant, White Mountains, New Hampshire (*A. W. E.*); Mt. Mansfield, Vermont (*A. W. E.*); Magnolia, Massachusetts (*W. G. Farlow*).

The two species just noted are fully described by Herr Müller. *S. paludosa* is by far the commoner of the two and has a wide distribution in Europe, especially in subalpine regions; *S. convexula*, on the other hand, is known from the type-locality only. Both spe-

¹ Ber. d. botan. Ver. zu Landshut, 7: f. 83. 1879.

² Hedwigia, 38: *pl.* 8, f. 14-16. 1899.

³ Hep. Brit. Isles, 124. *pl.* 46, f. 13-17. 1900.

⁴ Hedwigia, 38: 197. *pl.* 8, f. 1-13. 1899.

cies are allied to *S. undulata*; *S. convexula* is distinguished by its cordate antical lobe, the margin of which is coarsely spinose-dentate; *S. paludosa* is a delicate and flaccid species in which the antical lobe is broadly orbicular in outline, more or less cordate where it meets the postical lobe and distinctly decurrent on the other side. In *S. irrigua*, which is also closely related to *S. paludosa*, the lobes of the leaves are usually apiculate at the apex instead of being rounded.

In the writer's Preliminary List of New England Hepaticae, 123 species are noted. Of this number, 75 are accredited to Maine, 81 to New Hampshire, 67 to Vermont, 76 to Massachusetts, 65 to Rhode Island and 93 to Connecticut; while 31 species are accredited to all six of the New England States. During the short time which has elapsed since the publication of this list, additions have been made to the hepatic floras of every State except Rhode Island, and the majority of these are the result of explorations made during 1903. The most noteworthy of these additions have already been referred to in the preceding pages; the others are as follows:

For Maine. *Riccia Sullivantii*; Waterville (*E. B. Chamberlain*): this record was inadvertently omitted from the Preliminary List. *Harpanthus scutatus*; The Sands, near Prospect Harbor (*Mrs. A. R. Northrup*): specimens from this locality were kindly sent the writer by Miss Haynes.

For Vermont. *Frullania Brittoniae*; Jericho (*A. W. E.*). *F. riparia*; North Pownal (*A. LeRoy Andrews*). *Jungermannia lanceolata*; Willoughby (*Miss Lorenz*). *J. pumila*; Jericho (*A. W. E.*). *Lophozia Floerkii*; Mt. Mansfield (*A. W. E.*). *L. marchica*, *Mylia anomala*, *Scapania irrigua* and *Notothylas orbicularis*; Jericho (*A. W. E.*).

For Massachusetts. *Fossombronia Wondraczeki*; West Newbury (*Miss Haynes*). *Radula tenax*; Magnolia (*W. G. Farlow*). *Scapania curta*; Mt. Holyoke (*Miss Lorenz*).

The census of New England Hepaticae now stands as follows: total number recorded, 128; number recorded from Maine, 79; from New Hampshire, 85; from Vermont, 78; from Massachusetts, 83; from Rhode Island, 65; from Connecticut, 94; from all six States, 33.

YALE UNIVERSITY.

EXPLANATION OF PLATE 57.—*Lepidozia sylvatica* Evans. Fig. 1, part of plant with perianth, the latter seen from the postical aspect and enclosing a detached sporophyte, $\times 35$; Fig. 2, part of sterile plant, postical view, $\times 50$;

Fig. 3, part of stem with the bases of three branches, antical view, $\times 50$; Fig. 4, $\text{\text{♂}}$ inflorescence, lateral view, $\times 60$; Fig. 5, stem-leaf, $\times 220$; Figs. 6, 7, underleaves of stem, $\times 220$; Figs. 8–10, perichaetial leaves of innermost row, $\times 35$; Figs. 11–13, perichaetial leaves of second row, $\times 35$; Fig. 14, transverse section of perianth in upper third, $\times 35$; Fig. 15, teeth from mouth of perianth, $\times 220$; Fig. 16, perigonal bract, $\times 60$; Fig. 17, perigonal bracteole, $\times 60$. The figures were all drawn from the type-specimen and were prepared for publication by Miss Edna L. Hyatt.

THE IDENTITY OF ANDERSSON'S *SALIX PELLITA*.—*Salix pellita*, Anders. Mon. *Salix* (1865) 139, was based on two plants, one from Lake Winnipeg (*Bourgeau*), the other from the Rocky Mountains (*Lyll*). Material of the *Lyll* plant in the Gray Herbarium is different from any eastern species, but is very near the recently described *S. subcaerulea*, Piper, which occurs from the mountains of Oregon and Northern California to Montana. In August, 1903, the writer examined at Kew original material of the Winnipeg plant of *Bourgeau* and found it quite unlike the *Lyll* specimen but exactly a species which abounds along certain rivers of Maine and eastern Canada; and since the Winnipeg shrub was first cited by Andersson, it, rather than the Rocky Mountain element of his complex species must bear the name, *S. pellita*. This species has long perplexed the botanists who are familiar with northern Maine; and for want of a more satisfactory disposition for the plant, it has been temporarily placed with *S. candida*. From that species, however, *S. pellita* is very quickly separated. *S. candida*, as yet unknown in Maine, is a species primarily of larch or arbor-vitae swamps, the branchlets, leaves (usually above as well as beneath) and capsules pubescent with dull whitish *lanate* or *flocculent tomentum*; and the young styles conspicuously tinged with crimson. *S. pellita*, a species ordinarily of gravelly or well-drained shores, has the young branchlets glabrous or at most minutely pilose, the leaves glabrous or quickly glabrate above, whitened beneath, at least when young, with *lustrous velvety* or *silky pubescence*; the ovaries and capsule *silky-tomentose*; the styles yellowish or brownish. In northern Maine and adjacent Canada *S. pellita* is one of the commonest willows, and the material now at hand shows it to range from the Dartmouth River, Gaspé County, Quebec, to the lower Androscoggin River, Maine, north to Lake St. John, Quebec, and west to Lake Winnipeg.—M. L. FERNALD, Gray Herbarium.

TENTH ANNUAL MEETING OF THE JOSSELYN
BOTANICAL SOCIETY OF MAINE.

DORA H. MOULTON, Secretary.

A PARTY of twenty-six enthusiastic members and friends of the Josselyn Botanical Society of Maine entered the St. John Valley on July 6th, for four days work along the gravelly shores and steep banks of the river, and among the adjacent bogs and hills. The Society received most courteous treatment at Hotel Dickey, Fort Kent, where everything possible was done for the comfort of the party. The evenings were spent comparing and discussing the collections of the day. On Friday evening Mr. M. L. Fernald delivered an address on "The Flora of the St. John Valley"; and Dr. George Upham Hay, of St. John, New Brunswick, spoke of the fungi collected, and extended greetings from the Botanical Club of Canada, of which society he is the president. Most favorable weather made it possible to explore a distance of practically thirty miles along the banks of the river. Everywhere, on roadsides, riverbanks and open places, the blue of *Vicia Cracca*, L., and *Campanula rotundifolia*, L., was most conspicuous, and with the yellow of the buttercups and the white of the daisies, made clearly defined bands or ribbons of color bordering the roads.

This region is rich in local plants, and among such species were noted *Astragalus alpinus*, L., *Tanacetum Huronense*, Nutt., *Castilleja pallida*, var. *septentrionalis*, Gray., *Hedysarum boreale*, Nutt., *Vaccinium caespitosum*, Michx., *Carex castanea*, Wahl., *Grappophorum melicoideum*, Desv., *Equisetum palustre*, L., and *E. variegatum*, Schl., growing in scattered patches over the drier gravelly shores. *Artemisia Canadensis*, Michx., was seen on the beach at St. Hilaire, New Brunswick, but not noticed on the Maine shore. In the deep wet sands *Utricularia intermedia*, Hayne, flowered abundantly. Here also, everywhere on the wet beaches, grew *Primula Mistassinica*, Michx., and *Tofieldia glutinosa*, Willd., while back, in what might be termed the river meadows, were an abundance of *Anemone Canadensis*, L., and large patches of *Angelica atropurpurea*, L. On the steep slopes were seen *Halenia deflexa*, Griseb., *Pedicularis Furbishiae*, Wats., and *Clematis verticillaris*, DC. In springy spots was found *Myosotis laxa* Lehm., previously unknown in the valley. Back from

the river in wet arbor-vitae swamps were found *Microstylis monophyllos*, Lindl., and *Luzula parviflora*, Desv. In rich alluvial woods grew *Pyrola asarifolia*, Michx.; in the upland evergreen woods *Pyrola minor*, L. and occasionally *Goodyera Menziesii*, Lindl. (very scarce), and *Geum macrophyllum*, Willd. *Thlaspi arvense* L. was frequent in barnyards.

There are fourteen plants previously known as occurring in the St. John Valley but not reported in the Portland Catalogue, which are worthy of special mention. Possibly the most conspicuous of this group is *Oxytropis campestris*, var. *Johannensis*, Fernald, growing everywhere on the rocky beaches. On these beaches, also, *Salix glaucophylla*, Bebb, and *S. pellita*, Anders., and on the wet gravelly shores *Calamagrostis neglecta*, Trin., grow in great abundance. *Poa glauca*, L., and *Carex vesicaria*, var. *Raeana*, Fernald, are more scattered on the river banks. The latter plant has been previously known only from Methaye Lake, Athabaska, Lake St. John, Quebec, and the Rangeley Lakes, Maine. *Equisetum pratense*, Ehrh., abounds in alluvial woods; and *Lycopodium complanatum*, L. (true), *L. Sitchense*, Rupr., and *L. sabinaefolium*, Willd., grow in the upland evergreen forest. *Veronica serpyllifolia*, L., var. *borealis*, Laest., in springy spots, and *Gnaphalium sylvaticum*, L., in sterile soil, are both rather common. *Listera auriculata*, Wiegand, somewhat rare, is apparently found only in sandy alluvium. *Viola Labradorica*, Schrank (true), found on ledges, has been previously known in Maine from various stations in the St. John Valley and from the cliffs of Mt. Katahdin.

Two plants new to the State may be credited to the explorations of this time. One is *Osmorrhiza divaricata*, Nutt., local in rich upland woods, a Rocky Mountain species first found in the East at Rivière du Loup, Quebec, by E. F. Williams and M. L. Fernald in 1902. The other plant is *Equisetum variegatum*, var. *Jesupi*, A. A. Eaton, found on gravelly shores.

A new station for *Anemone riparia*, Fernald, *A. multifida*, Poir. *Erigeron hyssopifolius*, Michx., and *Cynoglossum Virginicum*, L., was found by a small party who remained longer in this region.

PORTLAND, MAINE.

NEW STATIONS FOR MAINE PLANTS.

EDWARD B. CHAMBERLAIN.

DURING the past few years several plants have come to my notice whose distribution in Maine or in New England seems to warrant calling attention to them here. Specimens of all the species here noted are in my own herbarium; and in almost all cases there are duplicates in the Gray Herbarium, or in the Herbarium of the New England Botanical Club.

Carex alopecoidea, Tuck.—On alluvial banks at Vassalboro, Kennebec Co., Maine, collected July 3, 1902. This is the first station in New England outside of the Champlain valley.

Carex grisea, Wahl.—Growing with the preceding species at Vassalboro. Previously reported in Maine only from Waterville.

Carex Houghtonii, Torr.—Roadside in Falmouth, a very limited station.

Carex polymorpha, Muhl.—This rare and local sedge was found by the writer and Mr. C. H. Bissell in July, 1902, while botanizing near Underwood Springs in Falmouth. Since then the plant has also been found in Cumberland. These stations extend the range considerably from the station at Wells, where it was collected by the Rev. Joseph Blake.

Carex vestita, Willd.—Brunswick, Maine, in a sand pit, collected by the writer in 1898. Previously reported from North Berwick by Mr. J. C. Parlin, in the second Supplement to the Portland Catalogue of Maine Plants.

Scirpus pedicellatus, Fernald.—Specimens were collected at Cumberland in September, 1902, and determined by Mr. Fernald. Apparently the plant has not been reported from Maine before.

Carya alba, Nutt.—Rather common in some parts of Falmouth, Cumberland and North Yarmouth, especially in the localities known as Bruce Hill and Presumpscot Gorge. There is also a specimen in my herbarium collected in woods at Turner, Maine, June 27, 1897, by John E. Dinsmore. These stations extend northward the range given in Dame and Brooks, "Handbook of the Trees of New England," p. 49.

Ranunculus ambigens, S. Wats.—Abundant in a muddy ditch at

Cumberland Center. This station is near the northern limit of the plant in Maine.

Sedum stoloniferum, Gmel.—This plant, a native of Asia Minor and adjacent Europe, is well established and spreading in a yard at Cumberland Center. It is doubtless a relic of earlier cultivation, but no garden has been on the spot for ten or fifteen years, while the area occupied is steadily increasing.

Poterium Sanguisorba, L.—Abundant in a mowing field at Cumberland Foreside.

Vicia tetrasperma, L.—Abundant at one station on the Maine Central Railroad near Cumberland Junction, where it has persisted for three years at least. This summer, 1904, it has also been collected by Dr. D. W. Fellows at Cumberland Foreside, some three miles from the first station.

Euphorbia hirsuta, Wiegand.—Very abundant along the Grand Trunk Railroad in Cumberland and Yarmouth.

Nyssa sylvatica, Marsh.—Occasionally found in swampy woods in Cumberland and North Yarmouth, in some cases growing in large clumps with trees 30 or 40 feet in height.

Galium boreale, L.—Quite abundant in a field at Pleasant Pond, Caratunk, in Somerset county, where it was collected by Mr. J. Franklin Collins and the author in August, 1902. It has been reported by Mr. L. H. Baker from Exeter, Maine, in RHODORA, I. 75.

Houstonia purpurea calycosa, Gray.—One clump of this variety was found in 1902 at Cumberland Center; previously it has been reported by Mr. J. C. Parlin from North Berwick.

CUMBERLAND CENTER, MAINE.

SOME UNUSUAL CONNECTICUT PLANTS.

C. B. GRAVES.

Panicum Commonsianum, Ashe.—In June, 1903, this species was found growing sparingly on a gravelly railroad bank at Giant's Neck, in East Lyme. The determination was confirmed by Prof. A. S. Hitchcock, of Washington, D. C. This is its second record from Connecticut, the first being by Mr. C. A. Weatherby (RHODORA VI, 42).

Juncus tenuis, Willd., var. *Williamsii*, Fernald.— It may be of interest to record the fact that the distribution of this well marked variety reaches quite to the southern border of New England. Characteristic specimens were collected both last year and this present summer in the town of Groton, close to the shore of Fisher's Island Sound.

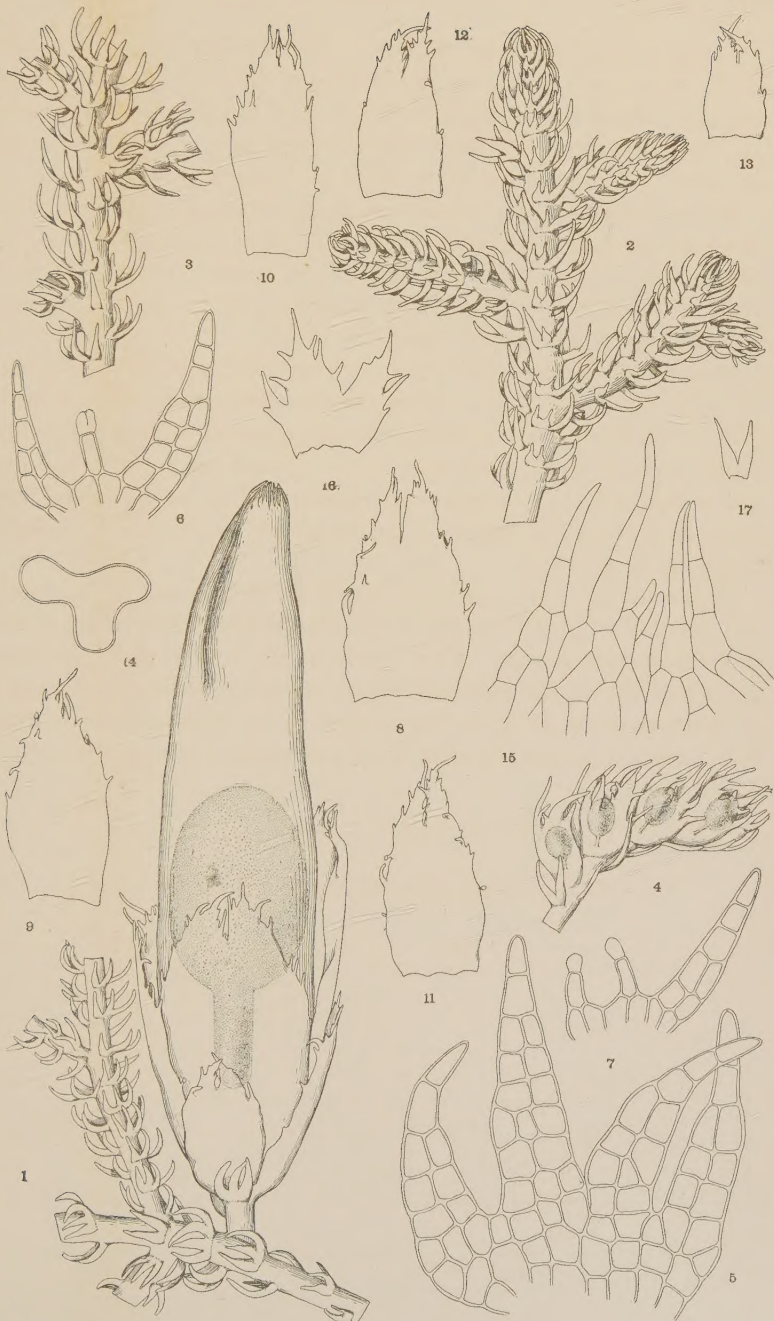
Rubus Canadensis, L.— Inasmuch as since the recent overturning in the genus *Rubus* the older records will be of little value in fixing distribution, it may be worth while to note that last August this species, the smooth unarmed high blackberry of the mountains, was collected by me at Bigelow's Gorge in Union.

Rosa nitida, Willd.— This northern form was discovered in August, 1903, in an extensive cedar swamp in the northeastern part of Stafford. The Gray Herbarium contains no material from any locality south of the Massachusetts line, and so far as I am aware it has not before been found in Connecticut. The record in Bishop's catalogue from East Hartford was, as I am informed by Mr. A. W. Driggs, based upon an error.

Tilia pubescens, Ait.— Several small trees of this species were seen last September on the wooded slopes bordering the Shetucket River in the town of Sprague. They were sterile at that time, but comparison of the leaves with material at the Gray Herbarium seemed to leave no doubt as to the correctness of the determination. This form does not appear to have been previously recorded from New England.

NEW LONDON, CONNECTICUT.

Vol. 6, No. 68, including pages 165-180 was issued 6 August, 1904.



LEPIDOZIA SYLVATICA, EVANS.

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